

Aquatic Science Programs 2021

A summary of our work in 2021 and what's in store for 2022

March 2022



IN THIS ISSUE

Core Program updates	2
ASP Beach Monitoring	2
Seeing Green	3
Lake Murray Study	3
SC Estuarine & Coastal	4
Additional Information	4

Another Year Down

By Kay Wilson



As we are drawing close to the end of another year, we wanted to summarize the great work that the Aquatic Science Programs staff has completed throughout the year. Most of our core programs have wrapped up for the year to include the 319 Nonpoint Source monitoring, Macroinvertebrate collection, and our Fish Tissue program. These programs have reoccurring objectives, which in turn translates to some of the more consistent work performed annually.

The Chlorophyll & Cyanotoxin lab has been busy as ever and we are happy to have completed a second year of work along the coast as part of a multi-agency effort. In addition we have conducted several special projects to include a Toms Branch Study and Lake Murray Nutrient Monitoring.



ASP Beach Monitoring

In 2020, the ASP Beach Monitoring Program was able to team up with multiple municipalities, counties, and other local partners to create [checkmybeach](https://checkmybeach.com). The Check My Beach Program was created to improve communication about swimming advisories, beach safety, water quality, and SCDHEC's Beach Monitoring Program. Despite the pandemic, the program was promoted in the Grand Strand area through signs posted along the beach and through websites, and it was overall successful with over 16,000 unique visitors to the website.

Core Program Updates

This year, the 319-NPS sampling reached a 97% completion rate. Unfortunately, 100% completion was not achievable due to obstructed access (closed roads) and no water flow at some sites. This is not uncommon, especially considering how dry much of this year has been.

Our Macroinvertebrate team completed their program's goal of sampling a total of 70 sites and they were also able to complete QA resampling for 10% of the sites by the end of September. Now that the field collection portion is done, they have now moved on to the tedious task of identification of the specimens collected throughout the year.

Our fish collection field team was incredibly busy this year. They were able to sample 20% more sites than their goal this year. This will give additional data that is used when issuing Fish Consumption Advisories. In addition, the Fish Consumption Advisory App went live this year. This is a helpful tool the public can readily access for the most up to date information on current consumption advisories.



The success with the Check My Beach Program continued in 2021, with over 21,000 unique visitors and 89% of visitors being mobile users. Also, 63% of the visits to SCDHEC's Beach Monitoring webpage came from [checkmybeach](https://checkmybeach.com)- a 19% increase from 2020. A Community Star Award was also awarded to Check My Beach partners in August of 2021 after recognizing the success and dedication towards educating people about water quality and beach safety. The ASP Beach Monitoring Program is continuing to work with its partners to expand promoting the Check My Beach Program to the remainder of the coast.

Lake Murray Nutrient Study

After completing the Lake Wateree Nutrient Study in 2020, the 303d Modeling & TMDL Section turned their focus to the upper parts of Lake Murray, specifically the Little Saluda and Bush River arms, for the 2021 season. In conjunction with ASP staff, three continuous monitoring buoys were deployed. Biweekly grab samples were also collected at these and two additional sites for a total of 15 sampling events over 29 weeks.

Seeing Green

As usual, the Chlorophyll & Cyanotoxin lab were full steam all year long. This year however was even more busy with a nearly 25% increase in special request complaint samples and a 20% increase in Chlorophyll samples compared to 2020. See the table below for the total number of samples received for analysis during the 2021 season which usually runs from April through October, however, there were several special request samples collected during the months of November and early December this year.

Chlorophyll	Cyanotoxin	Special Requests
1139	658	169
+19.84%	+2.28%	+23.67%

There were confirmed cyanotoxin blooms on Lake Wylie, Lake Whelchel, Lake Rabon and in the Goose Creek Reservoir this year. The biggest contributor to the increase in samples this year was Lake Wylie followed by Lake Whelchel.



South Carolina Estuarine & Coastal Assessment Program 2021

Aquatic Science Programs staff were involved with the coastal sampling for the second year in the row in conjunction in the SC Department of Natural Resources. This year, a total of 30 sites were sampled for a large array of parameters to include sediment, water and fish tissue. The project ran from early July through the end of August with DNR to prepare the report once all analyses are completed. This year, ASP staff submitted Total Nitrogen and Total Phosphorus samples to the Baruch Marine Laboratory in order to gain more usable data from the marine samples.

ASP and DNR are looking forward to another year of collaboration coming up in 2022. Planning will begin for the upcoming season this spring.



Additional Information

Visit scdhec.gov/bow/aquatic-science-programs to learn more about our projects.

Contact info for each specific program can also be found via the website listed above